

REMARKS

Claims 1-20 are pending, including independent claims 1, 6, 8 and 15. All claims have been rejected as obvious over the prior art.

Applicants' invention relates to message processing, one application being transferring messages among vehicles without the need for special equipment for forming, retaining, and destroying a network. Taking claim 1 for discussion, the message processing device can process an incoming message having a header and a body including data to be transmitted, where the header includes a time duration in which the message is valid. When the message processing device receives a message, it determines whether the message is in the valid time duration. If so, a message transferring unit transfers the message on, and an application processing unit reads out the data in the message body and executes predetermined processing. Independent claim 6 recites a message processing device having a similar structure. Here, however, the message includes a header that identifies a geographical zone in which the message is valid. When the message processing device receives a message, it determines whether the device is in the valid geographical zone. If so, a message transferring unit transfers the message on, and an application processing unit reads out the data in the message body and executes predetermined processing.

Independent claims 8 and 15 recite message processing devices that generate and transmit messages of the type specified in claims 1 and 6, respectively. Thus, for example, the device of claim 8 sets a valid time duration for a message header, generates data to be transmitted in the body of the message, and transmits this message. Claim 15 describes a similar device, except it sets a valid geographical zone instead of a valid time duration.

Upon a review of the claims, Applicants have amended various claims for clarification.

Claims 1-3 and 5-11 were rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent 6,816,460 ("Ahmed"). Ahmed describes a wireless system for routing a packet in a mobile ad-hoc network. In the preferred embodiment, a source node maintains location information and routing information of all nodes in a local area. If the

source node needs to send a packet to a destination node in its local area, that routing information is already available. If the destination node is outside its local area, the source node will send the packet to a node in the local area that is closest to the destination node, and this intermediate node will then attempt to route the packet to the destination node. (E.g., Abstract; col. 2, lines 25-39.)

With respect to claim 1, the Examiner proposes that the “valid duration” of the claim corresponds to the “time to live” field in Ahmed. Applicants disagree. The “time to live” field does not refer to a time duration. It actually refers to the number of hops between nodes (col. 7, lines 35-46) and therefore is not relevant to the “valid time duration” of Applicants’ amended claims. In any event, the “time to live” field is used when the system is constructing a local topology, not when the system is operating to transmit a packet (e.g., col. 5, lines 57-59; col. 6, line 56 et seq.; col. 7, lines 46-49). Thus, Ahmed does not describe at least the feature of claim 1 whereby the valid time duration is checked to determine whether or not to transfer a message and execute predetermined processing. Independent claim 8 similarly distinguishes over Ahmed.

With respect to independent claim 6, the Examiner proposes that the “valid zone” of the claim is the destination node in Ahmed. Claim 6 has been amended to recite “a header including information specifying a valid geographical zone.” Thus, a geographical zone can be, e.g., a range along a road, a specified area on a map, or an administrative district (e.g., application at ¶¶ 62-69 and Figs. 5-11), which may include none, one, or a plurality of message processing devices but does not identify a specific message processing device. This is very different than Ahmed in which a packet is routed to a particular destination node, and a geographical zone is not specified.

Dependent claims 4 and 12-14 were rejected as obvious over Ahmed and further in view of U.S. Patent 6,636,158 (“Bando”). The Examiner acknowledges that Ahmed does not teach the use of a flag indicating the message has reached a valid zone, but believes that Bando teaches the use of a flag in a similar manner. Applicants disagree. Bando describes an information processing apparatus in which position and time-of-day information is stored and associated with captured image data (e.g., Abstract; col. 1, lines 39-46; col. 3, lines 38-53). The passage cited by the Examiner (col. 6, line 58, et seq.) does not support the Examiner’s proposition. The cited passage describes

various flags that are used in the power-off process. The flags consist of a start flag (indicating first log data), an end flag (indicating last log data), a mark flag (indicating log data recorded when a mark button is operated), and an O/G flag (indicating when and/or how log data was stored) (col.6, line 41 to col. 7, line 13). Thus, Bando does not describe or suggest setting a flag when a message reaches a valid geographical zone. Moreover, neither Ahmed nor Bando suggests the specific way of handling the transfer of a message depending on the state of the flag, as recited in Applicants' claim 4.

Independent claims 6 and 15 were rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent 6,046,978 ("Melnik"). Melnik describes a method for routing data along a predetermined communication path in a wireless network. Unlike Applicants' invention which is particularly useful in a changing network of mobile units, Melnik is limited to a network of fixed nodes (e.g., col. 1, line 64 to col. 2, line 35). Because the nodes are fixed, the network can identify a specific communication path to be taken from the control node to the destination node. In fact, the system transmits -- in the packet -- the full routing information (e.g., col. 6, line 65 to col. 7, line 11).

In Melnick, each node in the network is assigned a unique logical address that includes two parts. A first part indicates a "band" in which the node is located, and a second part uniquely identifies the node relative to all other nodes in the band (e.g., Abstract; col. 6, lines 39-53). The Examiner may be interpreting the "band" identification as the zone information in Applicants' claims, but this is not correct. The bands in Melnik do not specify a geographical zone. To the contrary, a band is just a collection of individual nodes that are located the same number of hops away from the control node (e.g., col. 6, lines 39-45; col. 12, lines 17-36). Thus, a band does not specify a geographical region, but rather only a tier within a hierarchical logical network structure (col. 12, lines 37-44).

In Applicants' claim 6, a message processing device reads the data in the message body when it is determined that the device is within the valid geographical zone specified in the message. In Melnik, in contrast, a node processes the packet only if it is the particular node specifically identified as the destination node -- there is no geographic region specified or needed in Melnik. Independent claim 15 similarly

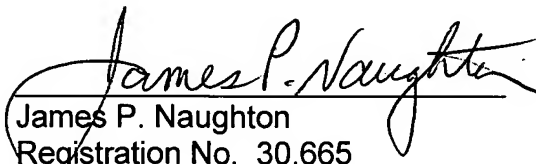
distinguishes over Melnik, because Melnik does not set a valid geographical zone in a message to be transmitted.

Claims 15-20 were rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent 6,363,320 ("Chou"). Particularly in view of the clarifying amendments for claim 15, Applicants submit that this rejection is incorrect. Chou describes a system for tracking objects such as vehicles and displaying the location of a tracked object on a map to a user (e.g., Abstract; col. 6, lines 11-23, 43-46; col. 7, lines 49-62; col. 9, lines 46-63). This is entirely different than claim 15 in which the valid geographical zone that is set as part of a message is reviewed by another message processing device receiving the message, and the other message processing device reads the data in the message body and executes predetermined processing if the other message processing device is located within the valid geographical zone.

The rejection of dependent claims 16-20 is not explained by the Examiner. Applicants believe these claims distinguish over Chou as explained for claim 15, and also because Chou does not describe or suggest specifying the valid geographical zone as specifically recited in any of those claims.

In summary, Applicants submit that the cited references do not affect the patentability of the claimed invention. Applicants respectfully request reconsideration and allowance of this application.

Respectfully submitted,


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